CLANCES AT EUROPE... No. XLIII.

PROSPECTS OF IRELAND. Editorial Correspondence of The Tribune.

Dublin, Tuesday, Aug. 5th, 1851. Or Irish stagnation, Irish unthrift, Irish destitution, Irish misery, the world has heard enough. I could not wholly avoid them without giving an essentially false and deceptive account of what must be painfully obvious to every traveler in Ireland; yet I have chosen to pass them over lightly and horriedly, and shall not recur to them. They are in the main sufficiently well known to the civilized world, and, apart from suggestions of amendment, their contemplation can neither be pleasant nor profitable. I will only add here that though, in spite of Poor-Laws and Union Poor-Houses, there is still much actual want, suffering and beggary in Ireland, yet the beggars here are by no means so numerous nor so importunate as in Italy, though the excuses for mendicity are far greater. What I propose now to bring under hasty review are the principal plans for the removal of Ireland's woes and the conversion of her myriads of paupers into independent and comfortable laborers. I shall speak of these in succession, beginning with the oldest and closing with the newest that has come under my observation. And first,

REPEAL The hope of obtaining from the British Crown and Parliament the concession of a separate Legislature of their own seems nearly to have died out of the hearts of the Irish Millions. The death of O'Connell deprived the measure of its mightiest advocate; Famine and other disasters followed; and fresher projects of amelioration have since to a great extent supplanted it in the popular mind. Yet it is to-day most palpable that such a Legislature is of the highest moment to the National well-being, and that its concession would work the greatest good to Ireland without injury to England. Nay, I see fresh reasons for my hope that such concession is far nearer than is generally imagined,

On all hands it is perceived and conceded that the amount of legislation required by the vast, widely scattered and diversely constituted portions of the British Empire is too great to be properly effected by any deliberative body. Parliament is just closing a long session, yet leaving very much of its proper business untouched for want of time, and that pertaining to Scotland is especially neglected. Then it has just passed a most unwise and irritating act with regard to the titles of the Catholic Prelates, which, because every act of Parliament must extend to Ireland unless that country is expressly excluded, is allowed to operate there, though the bad reasons given for its enactment at all have no application to that country, while the mischiefs it will do there are ten times greater than all it can effect in Great Britain. Had Ireland a separate Parliament, no British Minister would have been mad enough to propose the extension of this act over that country, where it is certain to excite disaffection and disloyalty, arouse slumbering hatreds, and impede the march of National and Social improvement. An Irish Parliament, with specified powers and duties akin to those of an American State Legislature, would be a great relief to a British Parliament and Ministry, a great support to Irish loyalty and trish improvement, and no harm to any body, These truths seem to me so palpable that I think they cannot long be disregarded, but that some one of the Political changes frequently occurring in Great Britain will secure to Ireland a restoration of her domestic Legislature. Neither Canada, Jamaica nor any other British colony can show half so good reasons for a domestic Logic

lature. TENANT-RIGHT. The agitation for Tenant-Right in Ireland is destined to fail-in fact, has virtually failed already. The Imperial Parliament will never concede that right, nor will any Legislature similarly constituted. And yet the demand has the clearest and strongest basis of natural and eternal justice, as any fair mind must confess. What is that demand? Simply that the creator of a new value shall be legally entitled to that value, or, in case he is required to surrender it to another, shall be paid a fair and just equivalent therefor. Here is a farm, for instance, whereof one man is recognized by law as the owner, and he lets it for three lives or a specific term of years to a tenant-cultivator for ten, fifteen or twenty shillings per acre. The tenant occupies it, cultivates it, pays the rent and improves it. At the close of his term, he is found to have built a good house on it instead of the old rookery he found there, while by fencing, draining, manuring and subsoiling he has doubled its productive capacity, and consequently its annual value. He wishes to cultivate it still, and offers to renew the lease for any number of years, and pay the rent punctually. 'But no,' says the landlord, 'you must pay twice as much rent as hitherto. . Why so ! . Because the land is more valuable than it was when you took it.' 'Certainly it is: but that value is wholly the fruit of my labor-it has cost you nothing.' 'Can't help that, Sir. you improved for your own benefit, and with a full knowledge that the additional value would revert to me on the expiration of your lease; so pay my price or clear out ! '-Is this right ! The law says Yes; but Justice says No; Public Good says even more imperatively No. The laws of the land should encourage every occupier to improve the land he holds, to expend capital and employ labor upon it, so as to increase its value and productive capacity from year to year; but the law of the British Empire discourages inprevenent and impedes the employment of labor by taking the product from the producer and giving it arbitrarily to the landlord. Yet the landlord influence in Parliament is so predominant. so everwhelming, that no repeal, no mitigation even, of this great wrong is probable; and every demand for it is overborne by a senseless outcry against Agrarianism. Still, the agitation for Tenant-Right does good by imbuing the popular mind with some idea of the monster evil and wrong of the Monopoly of Land-an idea which will not always remain unfruitful.

EMIGRATION.

Emigration is now proceeding with gigantic strides, and is destined for some time to continue. I think a full third of the present population of Ireland are anxious to leave their native land, and will do so if they shall ever have the means before better prospects are opened to them. Packet ships are constantly loading with emigrants at all the principal ports, while thousands are flocking monthly to Liverpool to find ready and cheap conveyance to America. But this emigration, however advisable for the departing. does little for those left behind, and is in the main detrimental to the country. The energetic, the daring, the high-spirited go, leaving the residue more abject and nerveless than ever If Two Millions more were to leave the country next year, the condition of the remainder would not be essentially improved. Over-Population is not a leading cause of Ireland's present miseries.

EDUCATION. Rudimental Knowledge is being slowly difments interposed by Religious jealousy and bigotry. But this remedy, as now applied, does not reach the seat of the disease. They are mainly the better class of poor children who are educated in the National and other elementary schools; the most deprayed, benighted, degraded, are still below their reach. The destitute, hungry, unemployed, unclad, despairing, cannot or do not send their children to school; the wife and mother who must work daily in the turfbog or potato-field for a few pence per day must keep her older child at home to mind the younger ones in her absence. Education, in its larger. truer meaning, is the great remedy for Irelan i's wces; but until the parents have steadier em pleyment and a juster recompense the general education of the children is impracticable.

ENCUMBERED ESTATES. The act authorizing and requiring the sale of irredeemably Encumbered Estates in Ireland is one of the best which a British Parliament has passed in many years. Under its operation a large portion of the soil is rapidly passing from the nominal ownership of bankrupts wholly unable and unqualified to improve it into those of new proprietors who, it may fairly be hoped, will generally be able to improve it, giving employment to more labor and increasing the annual product. The benefits of this change, however, can be but slowly realized, and are for the present hardly perceptible.

IRISH MANUFACTURES.

Within the past few months, a very decided interest has been awakened, in the minds of enlightened and patriotic Irishmen in Dublin and other places, with regard to the importance and possibility of establishing various branches of Household Manufactures throughout the country. It is manifest that the general cheapness of Labor and Food, the facilities now emoyed for communication, not only with Great Britain, but with all Europe and America also, and the extraordinary amount of unemployed and undeveloped capacity in Ireland, render the introduction of Manufactures at once eminently desirable and palpably feasible. Even though nothing could be immediately earned thereby, the simple diffusion of industrial skill and efficiency which must ensue from such introduction would be an inestimable gain to the peasantry of Ireland. But allow that all the idle poor of this island could in six months be taught how to earn six pence each per day, the agregate benefit to the Irish and to mankind would be greater than that of all the gold mines yet discovered. The Poorhouse Unions could be nearly emptied in a year. and this whole population comfortably fed, clad and boused within the next three years A beginning must be made with the simplest or household manufactures, for want of means to to establish the more complex, costly and efficient branches, which require extensive Machinery and aggregation of Laborers; but if the first step be successfully taken, others are certain to follow. With abundant water-power and mexhaustible beds of fuel yet untouched, it is demonstrable that Manufactures of Cotton and Woolen, as well as Linen, might be prosecuted in Ireland even cheaper than in England, though

be doubled. The first impulse to the Manufacture n ment appears to have been given by Mr. Thomas Meeney, a gentleman well known to his countrymen throughout the United States, whence he returned some eighteen months ago. Primarily at his suggestion, a 'Parent Board of Irish Manufacture' was organized in Dublin several months since, funds collected by voluntary subscription, an office opened, and a central school established, with a view to the qualifica-tion of teachers for the superintendence of auxiliary schools throughout the country. The enterprise was proceeding vigorously and with daily increasing momentum when Dissension. the evil genius of Ireland, broke out among its leading supporters, which has resulted in the division of the original Society into two, one of them sustaining Mr. Mooney and the other claiming to have taken the movement entirely out of his hands. Thus the case stands at present, but thus I trust it will not long remain. The enterprise is one of the most feasible and hope. ful of the many that have been undertaken for the henefit of Ireland, and affords ample scope and occupation for all who may see fit to labor for its success. I trust that all differences will speedily be harmonized, and that the friends of the movement, once more united, may urge it forward to a most complete and beneficent tri-

the average recompense of Labor should thereby

PEAT MANUFACTURE

The Peat Bogs of Ireland cover some Three Millions of Acres of its surface, mainly in the best of the country, though extending into every part of it. Perhaps One Hundred Thousand Acres, chiefly in the north-east, have been brought into cultivation; of the reside, some yield a little sour pasturage, but the greater portion is of no use whatever, save as it supplies a very poor but cheap fuel to the peasantry. These bogs are of all depths from a few inches to thirty or forty feet, though the very shallow have generally been reclaimed. This is effected in some cases by removing the Peat or Turf altogether; but sometimes, where it is quite deep, by ditching and draining it, and then cutting and heaping up some six to twelve inches at the top, so that it can be thoroughy burned, and then spreading the ashes over the entire surface for a soil This is not so deep as would be desired, but the climate is so uniformly moist and the skies so rarely unclouded that it suffices to insure very tolerable crops thereafter

I do not know how the origin of these Bogs is accounted for by the learned, but I presume the land they cover was originally a dense forest and that the Peat commenced growing as a sort of moss or fungus, carpeting the ground and preventing the germination of any more trees. In the course of ten or fifteen centuries, the forest trees (mainly of Oak or Firs) died out and fell into the Peat, which, dying at the top, continued to grow at the bottom, while the perpetual moisture of the climate prevented its destruction by fire. Thus the forest gradually disappeared, and the Peat alone remained, gaining a foot in depth in the course of two or three centuries until it alowly reached its present condition.

Many efforts have been made to render this Peat available in the employment of the Irish Peasantry as a basis of Manufacture and Commerce, but hitherto with little success. The magnificent chemical discoveries heralded some two years ago, whereby each bog was to be transformed into a mimic California, have not endured the rough test of practical experience. There is no doubt that Feat contains all the valuable elements therein set forth-Carbon. Ammonia, Stearine, Tar, &c .- but unfortunately it has hitherto cost more to extract them than they will sell for in market; so the high-raised expectations of 1849 have been temporarily blasted, like a great many predecessors.

sulted in new discoveries, which, it is con \(\frac{1}{2} \) dently asserted, render the future success of the Peat Charcoal manufacture a matter of demonfused in Ireland, in spite of the serious impedial strable certainty. A company has just been cr-

But further chemical investigations have re-

ganized in London, under commanding auspices, which proposes to embark £500,000 directly and £1,000,000 ultimately in Peat Works, having secured the exclusive right of using the newly natented processes of Messrs. J. S. Gwynne and J. J. Hays, which are pronounced exceedingly important and valuable. By a combination of these patented processes, it is calculated that the company will be able to manufacture from the inexhaustible Bogs of Ireland, 1. Peat Coal, or solidified Peat, of intense calorific power, exceedingly cheap, almost as dense as Bitumenous Coal, while absolutely free from Gases injurious to metals as well as from 'clinker,' and therefore especially valuable for Locomotives and for mnumerable applications in the arts; 2. Pent Charcoal, theroughly carbonized, of compact and heavy substance, free from sulphur, and for which there is an unlimited demand not only for fuel but for fertilization; 3. Peat Tar, of extraordinary value simply as Tar, an admirable preservative of Timber, and readily convertible into Illuminating Gas of exceeding brilliancy and power; 4. Acetate of Lime; and 5, a crude Sulphate of Ammonia, well known as a fertilizer of abundant energy. The company is already at work, and expect soon to have six working stations in different parts of the country, professing its ability to manufacture for 14s, per tun, Peat Charcoal readily selling in London for 45s., while they expect to realize 5s, worth of Tar. Ammonia, &c., with every tun of Charcoal. while on Solidified Peat they expect still larger profits. These may be very greatly reduced by practical experience without affecting the vital point, that sagacious and scrutinizing capitalists have been found willing to invest their money in an enterprise which, if it succeeds at all, must secure illimitable employment to Labor in Ireland REET SUGAR

and strongly tend to increase its average reward. A similar Company, with a like capital, has also been formed to prosecute extensively in Ireland the manufacture of Beet Sugar, and this can hardly be deemed an experiment. That the Sugar Beet grows luxuriously here I can personally bear witness; indeed, I doubt whether there is a soil or climate better adapted to it in the world. That the Beet grown in Ireland yields a very large proportion of Sugar is attested by able chemists; that the manufacture of Beet Sugar is profitable, its firm establishment and rapid extension in France, Belgium, &c., abundantly prove. The Irish Company have secured the exclusive use of two recently patented inventions, whereby they claim to be able to produce a third more sugar than has hitherto been obtained, and of a quality absolutely undistinguishable from the best Cane Sugar. They say they can make it at a profit of fully twenty-five per cent. after paying an excise of £10 per tun to the Government, working their mills all the year, (drying their roots for use in months when they cannot otherwise be fit for manufacture.) Mr. Wm. K. Sullivan, Chemist to the Museum of Irish Industry, states that the Beet Sugar manufactured in France has increased from 51,000 tuns in 1840 to more than 100,000 tuns in 1850, in defiance of a large increase in the excise levied thereon-that the average production of Sugar Beet is in Ireland 15 tuns per acre, against less than II tuns in France and Germany-that each acre of Beets will yield 4 tune (green) of tops or leaves, worth 7s. 6d. per tun for feeding cattle, making the clear profit on the cultivation of the Beet, at 15s. per tun, over £5 per acre—that there is no shadow of differ ence between the Sugar of the Beet and that of the Cane, all the difference popularly supposed to exist being covered by the existence of foreign substances in one or both—that Irish roots generally, and the Beet especially, contain considerably mere Sugar than those grown on the Continent-and that Beet Sugar may be made in Ireland (without reference to the newly patented processes from which the Company expect such great advantages) at a very handsome profit. As the soil and climate of Ireland are at east equal to, and the Labor decidedly cheaper than that employed in the same pursuit on the Continent, while Ireland herself, wretched as she is, consumes over two thousand tuns of Sugar per annum, and Great Britain, some twentyfive thousand tuns-every pound of it imported-

that the Beet Culture and Sugar Manufacture

will speedily be naturalized in freland, and that

they will give employment and better wages at

all seasons to many thousands of her sons

- Such are some of the grounds of my hope that the deepest wretchedness of this unhappy country has been endured-that her depopulation will speedily be arrested-and that better days are in store for her long suffering people. Yet Conquest, Subjugation, Oppression and Misgovernment have worn deep furrows in the National character, and ages of patient, enlightened and unselfish effort will be necessary to eradicate them Ignorance, Indolence, Inefficiency, Superstition and Hatred are still fearfully prevalent; I only hope that causes are beginning to operate which will ultimately efface them. If I have said less than would seem just of the Political causes of Ireland's calamities, it is because I would rather draw attention to practical though slow remedies than invoke fruitless indignation against the wrongs which have rendered them necessary. Peace and Concord are the great primary needs of Ireland-Peace between her warring Churches-Concord between her rulers and landlords on one side and her destitute and desperate Millions on the other. I wish the latter had sufficient courage and self-trust to demand and enforce emancipation from the Political and Social vassalage in which they are held to demand not merely Tenant-Right but a resti tution of the broad lands wrested from their ancestors by fire and sword,-not merely equal rights with Englishmen in Church and State, but equal right also to judge whether the existing Union of the two islands is advantageous to themselves, and if not to insist that it be made so or cease altogether. But Ireland has suffered too long and too deeply for this ; her emancipauon is now possible only through the education and social elevation of her People. This is a slow process, but earnest hearts and united minds will render it a sure one. If the Irish but will and work for it, the close of this century will find them a Nation of Ten Millions, with their Industry as diversified, their Labor as efficient, its Recompense as liberal, and their general condition as thrifty and comfortable as those of any other Nation. Thus circumstanced, they could no longer be treated as the appendage of an Empire, the heritage of a Crown, the conquest of a selfish and domineering Race, but must be ac-Isle in Civil and Religious Rights or break the connection without internal discord and almost without a struggle. There shall yet be an Irewithout a struggle. There shall yet be an Ire-land to which her sons in distant lands may turn their eyes with a pride unmingled with sadness but alas! who can say how soon!

STOLEN BONDS RECOVERED .- Christian Roselius, Esq. of New-Oricans, has just succeeded in recovering the \$114,000 of bonds, of the Pirst Muinterest coupons attaches th interest coupons attached, was a om the house of the late John M. Do-after his death. How they were reco-

PLAX-COTTON AT THE WORLD'S EAIR.

From the London Morning Chronicle. The subject of Flax-Cotton, paradoxical as its name may appear, is one not allocather new to the reacers of The Morning Chronicle. Some time since we announced the discovery of a process by which the harsh and elastic fibers of the flux-plant which the harsh and elastic fibers of the flat plant might be converted into a soft down-like substance, analogous to the fibers of cotton, and capable of being treated, in its after stages, in every respect similar to it. But we stated that, unlike cotton in one respect, it possessed felting properties which alapted it equally for spinning in combination with wool, and that labries produced from a mixture of flax and cotton, or flax and wool, possessed a degree of softness and strength which did not characterise those formed entirely of the one staple. We stated also that, in corsequence of the alterations effected in formed entirely of the one staple. We stated also that, in consequence of the alterations effected in the character of the fiber, the flax would be capable

that, in corsequence of the alterations elected in the character of the fiber, the flax would be capable of taking due and receiving impressions similar to any other fiber, whether animal or vegetable, and further, that the substance so produced could be prepared and sold with profit to the producer, at a price less than that at which cotton could be profitably imported into this country.

The amounteement of such a discovery was received by many persons with incredulity. Some supposed that we had been grievously imposed upon but others, judging more correctly, inferred that we should not have committed ourselves day after day to statements of facts, the accuracy of which we had not the fullest opportunity of testing and verifying. For this reason we decline to notice attacks made upon us by parties who ought to have been the first to had such an invention, which if successful, would do so much to promote and encourage the growth of fax in the United Kingdom. We thought it sufficient to leave the Great Exhibition to give a satisfactory answer to all objections, and to thought it sufficient to leave the Great Exhibition to give a satisfactory answer to all objections, and to afford a practical demonstration of the accuracy of our statements. The event has more than justified our anticipations, and in the numerous specimens exhibited by Cheraher Claussen in the south gallery of the Exhibition as well as in the departments of Canada, Russia, France, and Austria, will be found the most complete confirmation of every statement which we have made upon the subject.

With respect to the great value of the invention, when carried out to the country—whether regarded

With respect to the great value of the invention, when carried out, to the country—whether regarded in an agricultural or manufacturing point of stew—whether as affording to our agriculturists a market for a profitable and beneficial crop, as rendering them independent of foreign aid for their supply of oil-cake produced from the flux-seed, or jas bringing to the assistance of the cotton and woolen manufactures a valuable auxiliary, available at all times and all seasons—there cannot, we apprehend, exist a difference of opinion in any reasonable mind.

The listory which Chevalier Claussen gives of the

difference of opinion in any reasonable mind.

The lastory which Chevalier Claussen gives of the causes which nest led nim to experiment upon flax, for the purpose of "cottonizing" it, is exceedingly interesting, imamuch as it shows that his success was the result of inductive research, and not the offspring of mere chance. He tells us that, in wandering along the luxuriant banks of one of the Brazilian rivers, his attention was attracted to a white, down-like substance, athering to the branches of trees overhanging and touching the stream. On obtaining a quantity of it, he was so pleased with its character that, thinking he had discovered some hitherto unknown vecetable product, he was determined to trace it, if possible, to its source, and to ascertain the plant which had yielded it. With the arder of a naturalist he commenced his task, and mind to transfer the plant which had yielded it. With the arcer of a naturalist he commenced his task and eventually found that the substance had been washed from a hed of flax-straw, the produce of some of his own land, and which, long before, he had caused to be thrown, as useless, near the banks of the river. To this heap the swellen waters had occasional access—fermentation and the decomposition of a portion of the plant had taken place—and in time the influence of natural chemistry had so separated the filaments of the flax floer as to give the mass a cotton-like appearance—and some of it, having been washed into the river, had been arrested by the overhanging branches. Although the substance thus accidentally discovered was far from being in that concition which would fit if for the hands of the cotton-spuncer, yet, even in its then imperfect state, it led the Chevalier to entertain the idea of the possibility of completing, by the aid of artificial chemissibility of completing, by the aid of artificial chem try, that which nature had but partially accomplish

The first object worthy of notice in the stand of the Chevalier (laussen, is a machine for the purpose of reducing the bulk of the flax crop by the removal of a considerable portion of the straw from the stem of the plant, leaving the fiber in a partially cleaned state. Bitherto the great difficulty with all growers of flax has been the preparation of the crop for market, the grower having been compelled either to resort to the tedious and precarious process of steeping his flax, or to dispose of it to factors as it came from the field, upon any terms which they might think proper to offer, as the great bulk of the crop prevented the farmer from sending it to markets in the same manner as he would send his grain or other produce. In order to extricate the farmer from this dilemma, and to afford him the means of availing himself of the best market for his produce, The first object worthy of notice in the stand of

or other produce. In order to extricate the farmer from this cilemtaa, and to afford him the means of availing himself of the best market for his produce, this machine has been constructed, which will enable him, without resert to any steeping process, to reduce the bulk of his flax, and at the same time admit of his returning to the soil, in the shape of the straw removed, a large portion of the nutritive matter extracted—and which, formerly destroyed in the steeping process, had given rise to an opinion very generally held by agriculturists, that flax was an extremely exhaustive crop. Several specimens of the flax thus cleaned by the machine are shown.

The flax thus produced is in this stage adapted for the manufacture of sail cloth and other coarse fabrics, repes, cordage, &c. It requires, however, a more minute separation of the fibers to adapt it for the manufacture of finer descriptions of fabrics. To make the subject perfectly familiar to the reader, it will be necessary to explain the structure of the flax fiber. The stem of the flax plant consists of three distinct parts—the shove, straw, or woody matter which supports the plant, the fibers, which cover the outer sur ace of the straw, and the gum or resin, by which the fibers ure held together. The machine, as we have already described, removes the straw by which the mers are than together which we have already described, removes the straw only, and partially disintegrates the fibers held together by the resmons substance. Rence their controllers and their suitability for coarse fabrics the fibers. This object is to be accomplished by the removal of the resmous and glutmous substance which binds them together, and, as it does not appear that mechanical power will completely effect this, recourse is had to chemical action. These substances are therefore dissolved by the chemical action of fermentation, which takes place under the ordinary modes of steeping, whether in hot or cold water, and the application of mechanical power in the process of scutching afterward separates the fibers, and leaves them in a fit state for the various manipulations required previous to flax-This object is to be accomplished various manipulations required previous to flax spinning. It is found, however, that the present mining. It is found, occupies a considerable occss of steeping not only occupies a considerable ortion of time, but that its effects are not sufficiently inform to render it a fitting mode to be adopted in miform to render it a fitting mode to be adopted in he preparation of flax for spinning on cotton ma-hinery, and that, even when employed in the pre-aration of flax for the ordinary linen manufacturer, possesses many disadvatages which it would be

possesses many especially account of the control of pears completely to obviate most of the inconven-iences attending the ordinary modes of steeping. By this process the flax is boiled (either in the straw as it comes from the field, or in the state in which it leaves the growers' hands, with its bulk partially re-duced by mechanical means.) for two or three hours in a weak solution of caustic sodia. The action of the sodia dissolves completely the resinous and other substances of the plant, while, by its combination with the oleaginous matters that it contains, it pro-duces a scapp kind of liquid, which removes at the same time all the coloring matter from the plant same time all the coloring matter from the plant-leaving it, unlike flax steeped in the ordinary mode, perfectly free from all stain and impurity, and thereby facilitating greatly the after processes of bleaching or dyeing, whether in the yara or in Passing from the

Passing from the specimens illustrative of the pro-Passing from the specimens illustrative of the processes of preparing the flax for the lines manufacture, we next come to the interesting series of samples showing the mode by which the flax is prepared
for the cotton spinner. The first step necessary in
this process is the reduction of the flax fiber to
lengths adapted for spinning on cotton machinery.
These required lengths are obtained by a very
vincely adjusted piece of mechanism similar in its
principle to the ordinary chaff-cutting machines. It
is here that the greatest accuracy is required, as, if
any of the fibers exceed the required length, the
yarn produced will "bite" in the rollers and present
the appearance of being "overworked," and will
also be unequal in strength. The flax may be cut
for this purpose either in the straw as it comes from
the field, with its bulk partially reduced, or after it
has undergone the boiling process. But in order to
spin flax successfully upon cotton machinery, someching more is required than the mere reduction of
the length of the fiber. After having undergone the the length of the fiber. After having undergone the beiling or steeping process, and when the glutinous matter which binds them together is removed, the fibers, however fine, are still tharsh, coarse, an matter which binds them together is removed, and theirs, however fine, are still tharsh, coarse, and unelastic when compared with cotton; and the quantity in length of yarn obtained from equal weights of flax and cotton would be so greatly in favor of the latter, as completely to preclude the possibility of the former being substituted for it. For instance, one pound of flar bowed Georgia cotton, span into 30%, will yield 25.000 yards, while one pound of flax span into "line" of a number about equal to that of the cotton varn would produce but 21.000 yards, giving an advantage of 4,000 yards in the pound to cotton over flax. In addition to this, the yarn would be produced from the raw cotton by cotton machinery at an expense of less than three peace, while that of the flax would be about ten-peace the pound when prepared by the flax machinery. This is a difficulty which has autherto lain at the root of every attempt to spin flax successfully and profitably upon difficulty which has hitherto lain at the root of every attempt to spin flax successfully and profitably upon cotton machinery. A minute's attention, however, to the structure of the flax fiter suggested to the Chevaler Claussen a mode by which it might be successfully overcome. The noer of flax is cellular, and is formed by the union of bundles of smaller fiters which may be compared to the noman faces. If

by any process the character of the fiber could be altered—if the minute, hart-like, cellular substance could be further divided—it is obvious that the required increase in length and diminution of bulk could be obtained. But how was this feat to be accomplished? Hair-spitting, even upon a small scale, has always been considered as partaking semewhat of the impracticable; and to accomplish this process upon a large scale—to split this fine hair-like substance by hundred weights at a time, and to do it at a triffing cost—would appear to be beyond the bounds of possibility. The feat has, however, been accomplished by the Chevalier Clausen—and what is more, the result is effected instantaneously. We have already stated that in the processes required for the preparation of the flax for the flax-spinner, it was boiled in a weak solution of caustic soda. We will now suppose that, instead of staying the process at this stage for the flax-spinner, it should be required to carry it further, and to prepare the filer for the cotton-spinner. The flax would be taken out of the vat containing the solution of caustic soda, washed, and placed in another containing a cultiving of carbonate of soals, till saturated with the fiber for the cotton-spinner. The flax would be taken out of the vat containing the solution of existic soda, washed, and placed in another containing a solution of carbonate of soda, till saturated with the sait, and afterward put into a bath containing a weak solution of sulphuric or other acid. The hollow cylinders of the fibers will, by the laws of capillary attraction, speedily become charged with the acid united solution in which they were placed. The acid, coming in contact with the soda which the fibers had taken up in the first and second solutions, will generate carbonic gas, the expansive force of which will split or divide the fibers into a vast number of ribbon-like filaments, which, examined under the miscroscope, will present all the appearance of raw cotton. When carded and spin, it will be found that the produce in yarn of the pound of flax, thus treated, instead of being less in quantity than that of cotton, will be considerably more—the difference varying according to the character of the fiber operated upon, and the strength of the materials employed. At a meeting of the Council of the Reval Agricultural Society, held in February last, Professor Way, the consulting chemist of the society, showed this very beautiful and simple process. The following is the account given of it by Mr. Hudson, the Secretary of the Society, in his report of the proceedings of the maeeting.

"Although we have long been practically familiar with the expansive effects of aeritorin fluids solutions."

proceedings of the meeting

"Although we have long been practically familiar
with the expansive effects of aeritorm fluids suddenly disengaged chemically from an apparently
solid and inert substance like guippowder, either in
fire arms or the blasting of rock, and with their
clastic recoil when released from the pressure of
Dr. Faraday, we wire not prepared for so beautiful
procuping and proceeding of the principle as
the proceeding of the principle of the one Chevalier Claussen has given us in the splitting of vegetable fiber, by conveying into its interstuces the carbonic acid gas conscaled in condensation and chemical alliance with soda, and then seiting it free by the addition of acid, which breaks of that alliance by its own superior elective affinity for the alkali. Means shown in their result to be so powerful, and in their operation so gentle yet decisive, gave to the simple experiment, made in the presence of the council by Protessor Way, more the air of a new instance of natural magic, than the soher reality of an ordinary operation of natural laws, of which the application only was novel and its effect on the meeting was accordingly both singular and striking, occasioning evident marks of their agreeable surprise and admiration at the result obtained. The flax fiber soaked in the solution of subcarbonate of soda was no sooner immersed in the agreeable surprise and admiration at the result obtained. The flax fiber soaked in the solution of subcarbonate of soda was no sooner immersed in the
vessel containing the acidulated water, than its
character became at once changed from that of a
damp, rigid aggregation of flax to a light, expansive
mass of cottony texture, increasing in size like
leavening dough, or an expanding sponge. The
change was no less striking when this converted
mass in its turn was placed in the next vessel, which
contained the hypo-chlorite of magnesia and became at once bleached, attaining then the color, as
it had just before received the texture, of cotton.

One great advantage in connection with this maste
of preparing the flax—and it is one of the highest
importance to the agriculturist—is, that the flax will
not be required to be pulled before it is fully and
completely ripe, as is now the case where a fine flax
is required. A valuable crop of fully ripened seed
may therefore be ebitained, in addition to the fiber.
Moreover, we are told that the flax cotton may be
prepared at a cost considerably less than that at
which cotton can be profitably grown and imported.

Of course, it is not to be supposed that, in order to

Of course, it is not to be supposed that, in order to prepare flax cotton, any person would act so absurdly as to purchase flax steeped and southed in the mode in which it is usually brought into the market for the flax spinner. The great point in the invention is that the flax may be taken from the field, and is, that the fiax may be taken from the field, and converted into a soft, cotton-like substance, at a cost considerably less than that incurred even in the ordinary modes of steeping and scutching, in order to prepare it for the flax-spanier. Prepared for the market by steeping and scutching, flax will range in price from £40 to £120 per tun, and to operate upon a fiber so prepared, in order to produce a material which would sell for half that amount, would be indeed something like an attempt to transmute gold into comper. Thus, however, is not the object of the in-This, however, is not the object of the in copper. This, however, is not the object of the invention. The Chevalier Claussen commences, as is shown by the samples in his stand, at the same point where the ordinary flax-dresser commences—at that of the flax in the straw, and by producing a larger quantity at greatly reduced cost, and without mearing any waste in the shape of refuse tow, he obtains an article capable of being spin on the ordinary cotton machinery, and of being soid at a price which, while it is less than that of the long flax prepared for the linen manufacturer, is also lower than that at which cotton itself can be profitably grown, either by free or slave labor, in the great cotton-producing district of the United States.

The flax cotton is shown dyed in various colors

district of the United States.

The flax cotton is shown dyed in various colors immediately after caroing , it is also shown dyed in various colors in yarns spun entirely from flax, or nixed with various proportions of cotton the case of the mixed yarms no difference of color of the two substances is at all perceptible—thus showing that the flax so prepared is capable of taking the same opaque dye as ordinary cotton. Some samples of yarn prepared as silk are also displayed, and, as illustrating the great command which the inventor has over this fiber, these are dyed in colors possessing all the glossiness and brilliancy of the most beautiful silk. Several pieces of calico formed entirely of flax, and others formed of a ture of flax and otten, bleached and dressed dinary cloth, are exhibited.

Continuing his inspection, the visitor will next see pecimens of vari formed of a mixture of wool and ex-cotton. Hitherto it had been found impossible of cit or mill yarns, or fabrics formed of a mixture flax an world. flex-cotton. Hitherto it had been found impossible to felt or mill yarms, or fabrics formed of a mixture of flax and wool, or even to produce a yarn formed of these two substances, as the flax naturally does not possess the same feiting properties as wool. As we stated, however, at the commencement, the flax, and even cotton itself, undergoes a considerable change in its structure when prepared by the Chevalier Claussen, and the former is found to felt equally well as wool. Indeed, some specimens of felt formed of rabbit's hair and flax are shown, as illustrative of the great feiting properties which the "cottonized" flax fiber possesses. In addition to the mixed wool and flax-cotton yarns shown, there are displayed several pieces of excellent flannel formed of those yarns, and pieces of broad-cloth, grey and dyed, of a remarkably, clean, bright, and pure color, and of great strength and durability. The great advantages which this discovery places in the way of the woolen manufacturer are too obvious to require comment. A substance equal in every respect to wool, and admirably adapted for mixing with it, is given to the manufacturer at a price something less than one-fourth of that of his ordinary staple—thus enabling him to produce a mixed woolen fabric at a protortionally lower rate than he is able to manufacture his woolen goods, while, at the same time, the purchaser will be benefited, by obrapric at a protection while, at the same time, the purchaser will be benefited, by obtaining at a greatly reduced price an article equalidurable with one formed entirely of the more ex-

pensive fabric.

The last series of specimens shown are those which illustrate the applicability of the flax cotton to the purposes of the Leicester and Nottingham hosiery trade. The articles shown consist of stockings, drawers, and other ordinary articles of hosiery, and both in colors and in texture they are everything which can be desired. To those interested in the continued and increased prosperity of our great agricultural and manufacturing industries, we would recommend an attentive examination of the articles shown by the Chevalier Clausen. The advantages shown by the Chevalier Clausen. shown by the Chevalier Claussen. The advantages attendant upon flax culture are points from which we have abstained in our present remarks, but we would cordially commend to the notice of agriculturists the desirableness of immediately putting turists the desirableness of immeniately parami-themselves in a position to supply the extensive de-mand which will no doubt shortly arise for flax, and to obtain possession of a market for the supply of which our energetic transatiantic cousans appear to be already making great preparations.

The Nicaragua Steamship Line-Capt. Bailey. A San Francisco correspondent sends us the following in relation to this line:

SAR FRANCISCO, Tuesday, July 15, 1851. The pioneer boat of Vanderbilt's Independent Line left San Francisco vesterday, with 375 passengers and \$115,000 in gold dust. Capt D. G Bailey, formerly of the Packet ship Yorkshire, and late Commander of the U. S. Mail Steamer Panama, it will be remembered, took command of the Pacific on her leaving New-York. She made the quickest trip on record to Panama. On the arrival of the Pacific in San Francisco, her register was transferred, three-fourths, to Vanderbilt. Just previous to her sailing, she was labeled by a Mr. Jarvis, part owner, who claimed to have a bill of sale of her. And in order to release the steamer so that she might sail on the day advertises. Capt. Bailey resigned the command and went down to San Juan and Panama to look after the general interests of the line. A strong feeling in regard to this intrigue got up to stop the Pacific, existed in San Francisco, and Capt. Builey's conduct received the warmest commendation. A large number of the principal merchants assembled on the wharf, and as the Pacific glided out, Capt. Builey was called for and received three times three hearty cheers.

SCIENTIFIC CONVENTION AT ALBANY

Annual Meeting of the American Association for the Advancement of Science,

ALBANY, Thursday, Aug. 21, 1851. The proceedings of the Association yesterday were voluminous, but the papers read were not of general interest, being of a more strictly tees.

nical character than on any previous day. An interesting paper on the subject of the Serre teen-year Locust was presented in the Section of Natural History by Dr. W. I. Burnett of Boston, As the habits and periodical appearances of this destructive insect attract a large share of attention, the paper will be found well-stated to the discussion a

POINTS IN THE ECONOMY OF THE CICADA SEPTENDECIM (SEVENTEEN YEAR LOCUST—BEARING UPON THE PLURAL ORIGIN AND SPECIAL LOCAL CREATION OF THE SCECIES.

BY DE. W. I BURNETT, OF BOSTON.

The more we investigate the essential structures of animals, and the more extensive our knowledge of their hisbits and conditions of being, the more does one become impressed with the close reintens existing between them and their outward conditions of life. Our faith in an adaptability of animals generally to the external approach of the world, is lessened while our being that the unison of their lives win these agencies is not with them a maker of expendence, is strengthened. A careful analysis of these conditions has led some to believe in the special creation of the separate Faunas in the localities is which they are found. In a conceptance were attached. conditions has led some to believe in the special creation of the separate Faunas in the localities is which they are found. In a comprehense artist published some time since, Prof. Against has fract the various phases order which this question may considered, and in a may be found excelled traces for the particular creation of such Fauna and its in mutatolity through any period of time. A question allied to this but based upon a different age perhaps more enlarged view of life, is the one of the primitive numbers of each species. In this we also to our and Embryulogy and its afficial branches, but the influences which creations has wrought bed directly and morrority upon the ratio of mortality of animal life, affect much the validity of our coochsions. Nevertheless the general tener of each special must have been prefly near that which we find my natural and undistributed state, instead of a single pair as otherwise viewed. In a weardy, the harming pair as otherwise viewed. In a weardy, the harming natural and undestroys state, assessed of a sing-pair as otherwise viewed. In a locality, the name relations of which to aurmal life have not been di-turbed by the agencies of man, we have a right a infer that the existing state of destructive clame a

the summal's fecundity with its natural liabilities a mortality. It, in a term of human experience of one hundred or a thousand years, the natural probe siy a any well-known species only keeps pace with its nelative mortality, so that the number of that species at the end of that time, is about the same, it is very difficult to comprehend how even with species of innited numbers, that the same power of problem could enable a single pair to reach the present musbers under any existing change of the earth.

Were it so, we should expect to find a very correct ratio subsisting beltwice the present numbers of any undisturbed species and its powers of reproduction. But since attention has been called to the subject, and with many of the lower animals, the overcounted.

but since attention has been called to the subject, and with many of the lower animals, the ova counter, not only is there no reason for supposing that such relation is present, but in many instances the terropposite is true—afait, of the truth of which I have have lately been the more and more convinced from counting the ova of many insects and comparing the result with their well-known habits and conditions of the

The value, however, of such zeological phenenena bearing as they do against the ordinary opinion of the primitive condition of animal life, strike different minds with different force, according to the strength the tenure of these preconceived views may have on their mands. There are example in which these appears no escape from conclusions of this character. And although I might detail many taken from the ranks of lower animals, yet from its well-marked character, and recent occurrence. I select that bunished in the Seventeen-year Locust as the subject of this paper. The value, however, of such zoological phenenena

of this paper.

The present year (1851) may be noted as containing an episode of insect life of more than ordinary in nary interest and value, for in it has occurred the grand appearance of the Locust. The zoological value of such an event, I deem very great, and mee especially so because, since their last appearance many changes in our views of animal life have taken

place.

The regularity and promptness with which its meet appears at the end of an interval of 17 years is well known in science. Justly does it excite as astonishment that the conditions of its economy should be so image. During the last two or these

is well known in science. Justify does it excite six astonishment that the conditions of its economy should be so image. During the last two or thestimes of its appearance, its habits and peculiarities of life were quite thoroughly investigated. I need not therefore allude to them, except so far as the touch our subject.

During the last of May, I had the good fortune to witness their grand appearance in the interiors of Pennsylvania. They came forth in their usual almost incredible numbers, and a fine opportunity was given me to learn something about their continuous of life. The unsect appears in its perfect amage condition simply for the preservation of is species, its period of life in this state is therefore quite brief. Both male and female go about the functions immediately on escaping the carth, and entirely subterraneous, and, considering the deoble which they descend, almost as isolated from the agencies of civilization as those of the tenants of the ocean.

It appeared evident, from what I saw of their more

It appeared evident, from what I saw of theirme ments, that, unless swent away by violent current, they remain generally in the locality of their outless that the comers of this year may properly be set to be the linear descendants of those which there speared fifty or more years since. This is important as to our determining whether or not they really accept to another. crease in number.

rease in number.

I made strett inquiries of several men who had wisessed this their fourth appearance through the same cast of country, and their replies always were that evided not think their numbers to vary materially littler way. Being men of sense and farmers, I nought them able to judge of this matter, since they garded the rivages of this insect with no common ye. We will now look a little to its powers of resolution.

reduction.

The female has about 500 eggs, which from certain the female has about 500 eggs, which I have made so microscopically, are, probably all or nearly all 5 cundated. We have, then, for every two individuals which have appeared this year, a deposit of 500 embryos, for the generation to appear seventeen year

Now, from what has just been stated about the Now, from what has just occur attack a super-uniformity of their numbers each time, it appears that from the habilities of destruction during the lost term of seventeen years, out of these 500 embrys only two appear certain of life and appearance 2 their perfect state that is, just replacing the im-parents. The chances of life, therefore, with the insect, are, in round numbers, two in five hundred. The collection was seem strange to some, but 2 This calculation may seem strange to some, we reflect, it can scarcely be otherwise. for pose the chances were double, that is, 4 in 500 we reflect, it can scarcely be otherwise, an expose the chances were double, that is, 4 in 500, they we should have at each time just double the number of their last time, which observation has shown as he untrue, and which would augur much evil for the future condition of the regetable world in the least ties of their appearance.

Even if their chances were three to five hundred, but favor, the greatest took, agriculturists would

Even if their chances were three to his again the original stock, agriculturists would quickly perceive the difference.

To sum up the matter, then, we have here an issect whose economy and conditions of life are so unique that it is almost entirely isolated from annual destructive agencies, and which is obliged to deposit 500 chances for the certainty of securing targets. The ovaries have been formed with this capacity, and the whole internal economy is of a corresponding character.

From these data we can draw two valuable co thus balancing numbers against chances of mort for the preservation of the species. 21—The pit ity origin of this species, instead of a single for the preservation of the species. Significantly ity origin of this species instead of a single P. In the first, such evidence I regard as of the bag zoological character, and quite free from many those objections belonging to the analogous evides generally. As to the second, it is quite difficult to the second of the se

generally. As to the second, it is quite asconceive how the present myriads could have arifrom a pair, even if their chances of life were creased 20 or 30 per cent—which we cannot be possible, with the present climate of the carth. Regarding, then, these insects from these data a special local creation, and whose original namewer nearly as great as at present, we find the second or the carth of the cart were nearly as great dear grounds. I refer view supported by different grounds. I refer fact of the different years in which they make

appearance in different portions of the co Although during the present year, and the pasts Although during the present year, and the passed indivible by the number 17, have been those of greatest papearance yet the appearance of small numbers at different years has been noticed various or even in the same perions of ever try. In the Southern portion of New-England, of ferent parcels have appeared at fregular pero-and in some of the Middle States, there are califfes that have four distinct appearances of hinsect. Now as there is no evidence for our thing that they are ever unfaithful in their time, a pearing at the end of a longer or shorter intertinal 17 years, we are forced to the belief of not as their special local creations, but special creations. than It years, we are forced to the belief of not one their special local creations, but special creations different periods in the same locality. The ground such inferences is, I think, equally as tenghe, a much as in Geology and Paleontology, and certains in accordance with many of the recognized givesples of Zoological science.

I cannot diamiss the subject without expressingly with that studies of this kind may be prosecuted.